

Amendments to the Claims:

Please amend claims 1, 15, 22, 24, 31-34, and 36; add new claims 37-59; and cancel claims 4, 21, and 30, without prejudice, as shown in the listing below. This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Please amend the claims as follows:

1. (Currently Amended) A method comprising:
segmenting a message into a plurality of segments;
determining a fragment size and a number of fragments for each of the segments;
dividing the segments into a plurality of fragments using the fragment size and the number of fragments; ~~and~~
applying a segment indicator to each fragment, wherein the segment indicator indicates if segmentation is active for retransmission requests; and
transmitting the fragments with information regarding reconstruction of a fragmented segment.
2. (Canceled).
3. (Previously Presented) The method of claim 1, further comprising:
applying a segment parameter to each segment.
4. (Canceled).
5. (Previously Presented) A wireless receiving system comprising:
means for building segments of a message from a plurality of transmitted frames;
means for identifying a missing segment of the message;
means for extracting a segmentation indicator, wherein the segmentation indicator is received from the transmitting side and indicates if segmentation is active for retransmission requests; and

means for requesting a retransmission of the missing segment,
wherein if it has been identified that a segment is missing, a retransmission of the missing segment is requested if the segmentation indicator is active.

6. (Previously Presented) The receiving system of claim 5, further comprising:
means for segmenting a message to form a plurality of segments;
means for determining a fragment size and a number of fragments for each of the segments;
means for fragmenting the segments to form a plurality of fragments using the fragment size and the number of fragments;
means for transmitting the plurality of fragments; and
means for retransmitting one of the plurality of fragments.

7. (Previously Presented) A method for receiving transmissions in a wireless communication system, comprising:
receiving a transmission frame having a plurality of segments, each segment having a plurality of fragments, wherein a fragment size and number of fragments is determined for each of the segments;
determining if any of the plurality of segments is missing;
if no segment is missing, reconstructing the message;
determining if segmentation is active for retransmission from a segment indicator received from a transmitting side; and
if a segment is missing and segmentation is active, requesting retransmission of the missing segment.

8. (Previously Presented) The method of claim 7, further comprising:
processing fragments of the transmission frame.

9. (Previously Presented) The method of claim 7, further comprising:
determining an end of a segment; and
reconstructing the segment.

10. (Previously Presented) The method of claim 7, further comprising:
if a segment is missing, sending a negative acknowledge message to the transmitter of the transmission frame.

11. (Previously Presented) The method of claim 7, further comprising:
if no segment is missing, sending an acknowledge message to the transmitter of the transmission frame.

12. (Previously Presented) The method of claim 7, further comprising:
determining a start of a segment; and
storing information in a buffer from the start of the segment.

13. (Previously Presented) The method of claim 12, further comprising:
if the buffer is not empty at the start of a segment, flushing the buffer.

14. (Previously Presented) The method of claim 13, further comprising:
if a fragment is not a start of segment and the buffer is empty, marking the fragment as missing.

15. (Currently Amended) A wireless apparatus, comprising:
a receiver for receiving a plurality of transmission frames having a plurality of segments, each segment having a plurality of fragments, wherein a fragment size and number of fragments is determined for each of the segments;

a segment extraction unit coupled to the receiver for identifying and reconstructing segments within a transmission frame according to segment indicators associated with segments and received from a transmitting side, wherein at least one of the segment indicators indicates when segmentation is active for retransmission requests; and

a message reconstruction unit coupled to the segment extraction unit for determining any missing segment within a message and to request retransmission of the missing segment.

16. - 20. (Canceled).

21. (Canceled).

22. (Currently Amended) An apparatus that adapted for operation operates in a wireless communication system, comprising:

means for segmenting a message into a plurality of segments;

means for determining a fragment size and a number of fragments for each of the segments;

means for dividing the segments into a plurality of fragments using the fragment size and the number of fragments; and

means for applying a segment indicator to each fragment, wherein the segment indicator indicates if segmentation is active for retransmission requests; and

means for transmitting the fragments with information regarding reconstruction of a fragmented segment.

23. (Previously Presented) The receiving system of claim 5, wherein segment retransmission requests for a segment or a portion of a message are supported for active segmentation, and

wherein all segments of the message are retransmitted for inactive segmentation.

24. (Currently Amended) The method of Claim 1, further comprising:

~~including an active or inactive segment indicator in the plurality of segments when transmitting the fragments with information regarding reconstruction of the fragmented segment;~~

receiving a retransmission request for a first segment of the plurality of segments;

if segmentation is active for retransmission requests, retransmitting the first segment; and

if segmentation is inactive for retransmission requests, retransmitting the plurality of segments in response to the requests.

25. (Canceled).

26. (Previously Presented) The method of claim 1 further comprising:
determining a first fragment size and a first number of fragments for a first segment;
dividing the first segment into the first number of fragments having the first fragment size;
determining a second fragment size and a second number of fragments for a second segment; and
dividing the second segment into the second number of fragments having the second fragment size, wherein the first and second numbers of fragments are different.
27. (Previously Presented) The method of claim 1, wherein each fragment comprises a frame.
28. (Previously Presented) The method of claim 1, wherein each fragment is a Service Data Unit.
29. (Previously Presented) The method of claim 1, wherein each fragment has a sequential fragment identifier.
30. (Canceled).
31. (Currently Amended) The method of claim ~~30~~ 1, wherein each segment ~~identifier~~ indicator has at least two bits.
32. (Currently Amended) A computer-readable medium having computer-readable instructions embodied therein which, when executed, carry out a method comprising:
segmenting a message into a plurality of segments;
determining a fragment size and a number of fragments for each of the segments;
dividing the segments into a plurality of fragments using the fragment size and the number of fragments; ~~and~~
applying a segment indicator to each fragment, wherein the segment indicator indicates if segmentation is active for retransmission requests; and

transmitting the fragments with information regarding reconstruction of a fragmented segment.

33. (Currently Amended) A computer-readable medium on a wireless receiving system having computer-readable instructions embodied therein which, when executed, carry out a method comprising:

- building segments of a message from a plurality of transmitted frames;
- identifying a missing segment of the message;
- extracting a segmentation indicator, wherein the segmentation indicator is received from the transmitting side and indicates if segmentation is active for retransmission requests; and
- requesting a retransmission of the missing segment,

wherein if it has been identified that a segment is missing, a retransmission of the missing segment is requested if the segmentation indicator is active.

34. (Currently Amended) A base station comprising:

- at least one processor;
- a memory operatively coupled to the processor, the memory storing program instructions that when executed by the processor, cause the processor to:

- segment a message into a plurality of segments;
- determine a fragment size and a number of fragments for each of the segments;
- divide the segments into a plurality of fragments using the fragment size and the number of fragments;

- apply a segment indicator to each fragment, wherein the segment indicator indicates if segmentation is active for retransmission requests;

- transmit the fragments with information regarding reconstruction of a fragmented segment;

- receive a retransmission request from a receiving system for a first segment of the plurality of segments;

- retransmit the first segment to the receiving system if segmentation is active for retransmission requests; and

retransmit the plurality of segments in response to the request to the receiving system if segmentation is inactive for retransmission requests.

35. (Previously Presented) A remote terminal comprising:
at least one processor;
a memory operatively coupled to the processor, the memory storing program instructions that when executed by the processor, cause the processor to:
build segments of a message from a plurality of transmitted frames;
identify a missing segment of the message;
extract a segmentation indicator, wherein the segmentation indicator is received from a transmitting side and indicates if segmentation is active for retransmission requests; and
request a retransmission of the missing segment,
wherein if it has been identified that a segment is missing, a retransmission of the missing segment is requested if the segmentation indicator is active.

36. (Currently Amended) An apparatus for wireless communication systems comprising:
a processing module configured to 1) segment a message into a plurality of segments, 2) determine a fragment size and a number of fragments for each of the segments, ~~and~~ 3) divide the segments into a plurality of fragments using the fragment size and the number of fragments, and 4) apply a segment indicator to each fragment, wherein the segment indicator indicates if segmentation is active for retransmission requests; and
a transmitter for transmitting the fragments with information regarding reconstruction of a fragment segment.

37. (New) An apparatus for wireless communication comprising:
a receiver configured to:
build segments of a message from a plurality of transmitted frames;
identify a missing segment of the message;
extract a segmentation indicator, wherein the segmentation indicator is received from the transmitting side and indicates if segmentation is active for retransmission requests; and

request a retransmission of the missing segment if it has been identified that a segment is missing and the segmentation indicator is active.

38. (New) The apparatus of claim 37, further comprising:
a transmitter configured to:

- segment a message to form a plurality of segments;
- determine a fragment size and a number of fragments for each of the segments;
- fragment the segments to form a plurality of fragments using the fragment size and the number of fragments;
- transmit the plurality of fragments, and
- retransmit one of the plurality of fragments.

39. (New) The apparatus of claim 37, wherein the receiver is further configured to request retransmission of all segments of the message if segmentation is inactive.

40. (New) A method to communicate within a wireless system, comprising:
building segments of a message from a plurality of transmitted frames;
identifying a missing segment of the message;
extracting a segmentation indicator, wherein the segmentation indicator is received from the transmitting side and indicates if segmentation is active for retransmission requests; and
requesting a retransmission of the missing segment if it has been identified that a segment is missing and the segmentation indicator is active.

41. (New) The method of claim 40, further comprising:
segmenting a message to form a plurality of segments;
determining a fragment size and a number of fragments for each of the segments;
fragmenting the segments to form a plurality of fragments using the fragment size and the number of fragments;
transmitting the plurality of fragments; and
retransmitting one of the plurality of fragments.

42. (New) The method of claim 40, further comprising:
requesting a retransmission of all segments of the message if segmentation is inactive.
43. (New) An apparatus for wireless communication comprising:
means for receiving a transmission frame having a plurality of segments, each segment having a plurality of fragments;
means for determining a fragment size and number of fragments for each of the segments;
means for determining if any of the plurality of segments is missing;
means for reconstructing the message if no segment is missing;
means for determining if segmentation is active for retransmission from a segment indicator received from a transmitting side; and
means for requesting retransmission of the missing segment if a segment is missing and segmentation is active.
44. (New) A computer-readable medium having computer-readable instructions embodied therein which, when executed, carry out a method comprising:
receiving a transmission frame having a plurality of segments, each segment having a plurality of fragments, wherein a fragment size and number of fragments is determined for each of the segments;
determining if any of the plurality of segments is missing;
if no segment is missing, reconstructing the message;
determining if segmentation is active for retransmission from a segment indicator received from a transmitting side; and
if a segment is missing and segmentation is active, requesting retransmission of the missing segment.
45. (New) A remote terminal comprising:
an antenna configured to receive a transmission frame having a plurality of segments, each segment having a plurality of fragments;
a receiver configured to:

- determine a fragment size and number of fragments for each of the segments;
- determine if any of the plurality of segments is missing;
- reconstruct the message if no segment is missing;
- determine if segmentation is active for retransmission from a segment indicator received from a transmitting side; and
- request retransmission of the missing segment if a segment is missing and segmentation is active.

46. (New) An apparatus for wireless communication comprising:
a receiver configured to:

- process a received transmission frame having a plurality of segments, each segment having a plurality of fragments;
- determine a fragment size and number of fragments for each of the segments;
- determine if any of the plurality of segments is missing;
- reconstruct the message if no segment is missing;
- determine if segmentation is active for retransmission from a segment indicator received from a transmitting side; and
- request retransmission of the missing segment if a segment is missing and segmentation is active.

47. (New) The apparatus of claim 46, wherein the receiver is further configured to extract the plurality of fragments from the transmission frame.

48. (New) The apparatus of claim 46, wherein the receiver is further configured to determine an end of a particular segment; and
reconstruct the particular segment.

49. (New) The apparatus of claim 46, wherein the receiver is further configured to send a negative acknowledge message to the transmitter of the transmission frame if a segment is missing.

50. (New) The apparatus of claim 46, wherein the receiver is further configured to send an acknowledge message to the transmitter of the transmission frame if no segment is missing.

51. (New) The apparatus of claim 46, wherein the receiver is further configured to determine a start of a segment; and
store information in a buffer from the start of the segment.

52. (New) The apparatus of claim 51, wherein the receiver is further configured to flush the buffer if the buffer is not empty at the start of a segment.

53. (New) The apparatus of claim 52, wherein the receiver is further configured to mark the fragment as missing if a fragment is not a start of segment and the buffer is empty.

54. (New) The apparatus of claim 36, wherein the processing module is further configured to apply a segment parameter to each segment.

55. (New) The apparatus of claim 36, wherein the processing module is further configured to:

determine another fragment size and another number of fragments for another segment;
and

divide the other segment into the other number of fragments having the other fragment size, wherein the numbers of fragments and the other number of fragments are different.

56. (New) The apparatus of claim 36, wherein each fragment comprises a frame.

57. (New) The apparatus of claim 36, wherein each fragment is a Service Data Unit.

58. (New) The apparatus of claim 36, wherein each fragment has a sequential fragment identifier.

59. (New) The apparatus of claim 36, wherein each segment indicator has at least two bits.